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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,057	09/05/2003	Ronald E. Steele	RD8350USNA	9391

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EXAMINER

BUTLER, PATRICK

ART UNIT PAPER NUMBER

1732

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,057

Applicant(s)

STEELE, RONALD E.

Examiner

Patrick Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

This application contains claims drawn to an invention nonelected with traverse in Office Action Mailed 30 December 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Response to Amendment

The Applicant's Amendments and Accompanying Remarks, filed 27 April 2006, have been entered and have been carefully considered. No claims are new, Claim 1 is amended, no Claims are canceled, and Claims 1-5 are pending.

In view of Applicant's amendments to the specification to correct informalities, the Examiner withdraws the previously set forth objection as detailed in the Specification section of the Office Action dated 30 December 2005.

Despite these advances, the invention as currently claimed is not found to be patentable for reasons herein below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwinn (US Patent No. 6,234,390).

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Schwinn teaches a method of making a melt spun polyamide filament (abstract).

Schwinn teaches supplying polyamide polymer to a solid phase polycondensation apparatus (SPP) (see col. 6, lines 61-64). The polymer is in the range of about 40 to about 60 (about 36-38 RV) (see col. 7, line 30). A nitrogen purge gas is supplied at 23-51 m³/min. and polymer is supplied from 1460 to 1870 lb./hr. (see col. 7, lines 56-59; col. 8, lines 36-40; and Table 1). The gas has a dew point of -20C to 20 C (humidified with water vapor) see col. 8, line 66 through col. 9, line 1). The ratio of the flow rates (kg purge gas/hour per kg purge gas/hour) is 1.9 to 5.5 (see calculations below), which reads on the claimed range of 2 to 3.

N ₂ flow rate (m ³ /min)	Conversion 1.185 kg/m ³ of N ₂ at STP	dimensional conversion 60 min./hr.	N ₂ flow rate kg./hr.
23	1.185	60	1635
51	1.185	60	3626

polymer mass flow	
lb./hr.	kg./hr.
1460	663
1660	754
1870	849

purge gas flow rate kg./hr.	polymer flow rate kg./hr.	mass flow ratio of purge gas to polymer
1635	663	2.5
3626	663	5.5
1635	754	2.2
3626	754	4.8
1635	849	1.9
3626	849	4.3

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Schwinn teaches conveying the polymer to a melt extruder and extruding the melted polyamide polymer through a spinneret to form at least one continuous filament (see col. 16, lines 22-30).

Schwinn does not appear to explicitly teach that the solid phase polycondensation system pressure is within the claimed range (e.g., 110 to 120 kPascal). However, in this regard, Schwinn further teaches that a constant amount of gas per unit time is to be maintained with positive pressure in the SPP vessel. As such, Schwinn obviously recognizes that the solid phase polycondensation system pressure is a result-effective variable. Since the solid phase polycondensation system pressure would be a result-effective variable, one of ordinary skill in the art would have obviously determined the optimum the solid phase polycondensation system pressure applied in the process of Schwinn through routine experimentation based upon maintaining the desired amount of gas flow and positive pressure in the SPP vessel.

With respect to Claim 2, the filaments are quenched, which is a type of cooling, this quenching and cooling (see col. 13, lines 30-34).

With respect to Claim 3, the filament is coated with a spin finish, which reads on the broadly claimed "post-treating" (see col. 13, lines 30-34), and is wound around several rollers 178, 178, and 180 (see Fig. 4), which reads on the broadly claimed "winding".

With respect to Claim 5, as previously described in Claim 1, Nitrogen is purge gas and a ratio of 1.9-5.5 is obtained, reading on the claimed range of 2-3.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwinn (US Patent No. 6,234,390) as applied to claim 3 above, and further in view of Eberius (US Patent No. 4,034,034).

With respect to Claim 4, Schwinn teaches a process for making a synthetic melt spun polyamide filament as previously described.

Schwinn does not explicitly teach wiping the spinneret plate on the capillary exit side, in cycles, wherein each wiping cycle is separated by about 8 to about 12 hours.

Eberius teaches making a polyamide filament and wiping the spinneret in a cycle of 8 hours, which reads on the claimed range.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to wipe the spinneret as taught by Eberius in the process as taught by Schwinn because drippings, deposits, and encrustations easily form on the spinneret, and to prevent disruptions to production and formation of expected package size (see Eberius, col. 1, lines 32-64 and col. 2, lines 62-69).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwinn (US Patent No. 6,234,390) as applied to claim 3 above, and further in view of Fourné (*Synthetic Fibers*, p. 359).

With respect to Claim 4, Schwinn teaches a process for making a synthetic melt spun polyamide filament as previously described.

Schwinn does not explicitly teach wiping the spinneret plate on the capillary exit side, in cycles, wherein each wiping cycle is separated by about 8 to about 12 hours.

Fourné teaching wiping the first 5-15 cm below the spinneret, which would include the spinneret, at regular intervals (cycle) to avoid monomer growth (first paragraph of section 4.7.5.1).

Schwinn in view of Fourné does not appear to explicitly teach that the wipe cycle frequency is within the claimed range (e.g., every 8-12 hours). However, in this regard, Fourné further teaches wiping at regular intervals to avoid monomer growth on the spinneret area (first paragraph of section 4.7.5.1). As such, Fourné obviously recognizes that the wipe cycle frequency is a result-effective variable. Since the wipe cycle frequency would be a result-effective variable, one of ordinary skill in the art would have obviously determined the optimum the wipe cycle frequency applied in the process of Schwinn in view of Fourné through routine experimentation based upon minimizing disruptive monomer build-up.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to wipe the spinneret as taught by Fourné in the process as taught by Schwinn in order to minimize disruptive monomer build-up.

Response to Arguments

Applicant's arguments filed 27 April 2006 have been fully considered but they are not persuasive.

As stated in on page 5, first full paragraph, of the Office Action dated 30 December 2005, one of ordinary skill would have found it obvious to modify the pressure to 110-120 kPascal because it would maintain desired amount of gas flow and

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positive pressure in the SPP vessel. Since applicant has not contested this position, it is taken as agreement by Applicant.

Applicant argues with respect to the 35 USC 103 rejections. Applicant's arguments appear to be on the grounds that:

1) Schwinn's supply polymer has RV of 40-60, which is different from the 36-38 RV used in applicant's Claim.

2) Schwinn's purge gas minimized water vapor contact, whereas Applicant's humidifies the purge gas as Claimed.

3) Schwinn would not be sought for creating an RV of 50-53, principally because it does not teach this final RV.

4) Eberius's 83 extra scrapings versus 536 extra scrapings do not constitute an improvement.

5) The scraping cycle of Eberius is fixed while Applicant's method is neither fixed nor routine. The instant invention only scrapes as necessary due to bending of the filaments.

6) Aspiration is not an equivalent to scraping to remove the monomer build-up.

The Applicant's arguments are addressed as follows:

1) Viewing Schwinn's RV value of 40 as one significant digit, it necessarily reads on 35-45, which includes the claimed range.

Moreover, the claimed upper range bound of "about 38" includes 40 in a broad interpretation of 38 +/- 10%. It is not clear that applicant intends to limit "about 38" to not include 40.

2) As Applicant acknowledges, there is water vapor content in Schwinn's purge gas, which would read on having "humidified" air as claimed.

Alternatively, it may be seen that having a dew point necessarily requires some level of water content. As the claim simply requires water content (humidified air), this limitation is met by Schwinn.

3) Schwinn teaches the claimed process result principally because it teaches the claimed ingredients and claimed process steps.

The examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference(s). Note however that the references teach all of the claimed ingredients, process steps and process conditions and thus, the claimed effects and physical properties would necessarily be achieved by carrying out the disclosed process. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the examiner's position that the application contains inadequate disclosure in that there is no teaching as to how to obtain the claimed properties and effects by carrying out only these steps.

4) Eberius et al.'s process is an improvement because the decreased number of scrapings is not at the price of decreased quality as the extra scrapings were done as required. Therefore, the decrease in interruptions in the process from 536 to 83 would be an improvement.

5) The Arguments point out that Applicant's process for scraping is not fixed or routine, yet Claim 4 describes the process as a cycle, which is considered a routine.

Moreover, because Applicant's cycle of 8 hours between scraping is sufficient to meet to limitations of Claim 4, then Eberius et al.'s cycle of 8 hours between scraping would also be sufficient to meet the limitations of the claim.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., scraping only as necessary) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6) It appears that Applicant's argument is the Claim only covers scraping—that no alternative means of removing monomer would read on the Claim. However, Fourné explicitly teaches "scraping" the first 5-15 cm below the spinneret, which would include the spinneret, at regular intervals (cycle) to avoid monomer growth (first paragraph of section 4.7.5.1). The first 5-15 cm below the spinneret includes the bottom on the spinneret.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mo.-Th. 7:30 a.m. - 5 p.m. and alternating Fridays.

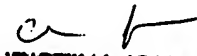
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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PRIMARY EXAMINER
7/10/06